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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/603,546	06/25/2003	Wei-Yi Lin	10112271	5452
34283	7590 11/30/2006		EXAMINER	
QUINTERO LAW OFFICE			RIELLEY, ELIZABETH A	
1617 BROADWAY, 3RD FLOOR SANTA MONICA, CA 90404			ART UNIT	PAPER NUMBER
5711(1711)101	o., o., o.,		2879	
			DATE MAILED: 11/30/2006	

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)				
	10/603,546	LIN ET AL.				
Office Action Summary	Examiner	Art Unit				
	Elizabeth A. Rielley	2879				
The MAILING DATE of this communication app	pears on the cover sheet with th	e correspondence address				
Period for Reply						
A SHORTENED STATUTORY PERIOD FOR REPL WHICHEVER IS LONGER, FROM THE MAILING D. - Extensions of time may be available under the provisions of 37 CFR 1.1 after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory period of Failure to reply within the set or extended period for reply will, by statute Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATI 36(a). In no event, however, may a reply be will apply and will expire SIX (6) MONTHS fr e, cause the application to become ABANDO	ON. e timely filed rom the mailing date of this communication. DNED (35 U.S.C. § 133).				
Status						
1)⊠ Responsive to communication(s) filed on <u>14 S</u>	eptember 2006.					
3) Since this application is in condition for allowa	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is					
closed in accordance with the practice under E	Ex parte Quayle, 1935 C.D. 11,	453 O.G. 213.				
Disposition of Claims						
4) ☑ Claim(s) 1,2,6-9 and 14-29 is/are pending in the 4a) Of the above claim(s) is/are withdraw 5) ☐ Claim(s) is/are allowed. 6) ☑ Claim(s) 1,2,6-9 and 14-29 is/are rejected. 7) ☐ Claim(s) is/are objected to. 8) ☐ Claim(s) are subject to restriction and/o	wn from consideration.					
Application Papers						
9) The specification is objected to by the Examine	ır.					
10)⊠ The drawing(s) filed on <u>13 June 2005</u> is/are: a)⊠ accepted or b)□ objected to by the Examiner.						
Applicant may not request that any objection to the		-				
Replacement drawing sheet(s) including the correct						
11) ☐ The oath or declaration is objected to by the Ex	caminer. Note the attached Office	ce Action or form PTO-152.				
Priority under 35 U.S.C. § 119						
12)⊠ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a)⊠ All b)□ Some * c)□ None of:						
1. Certified copies of the priority documents have been received.						
2. Certified copies of the priority documents have been received in Application No						
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).						
* See the attached detailed Office action for a list		ved				
	and detailed depicts flot recoil					
AMachine						
Attachment(s) 1) Notice of References Cited (PTO-892)	4) 🔲 Interview Summa	OD: (DTO 442)				
2) D Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail	Date				
Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date	5) Notice of Informa 6) Other:	I Patent Application				

Application/Control Number: 10/603,546

Art Unit: 2879

DETAILED ACTION

Response to Amendment

Amendment filed 9/14/06 has been entered and considered by the Examiner. Claims 3-5 and 10-13 have been canceled. Currently, claims 1, 2, 6-9, and 14-29 are pending in the instant application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 1, 2, 5-9, 14-20, 23, and 24 rejected under 35 U.S.C. 103(a) as being unpatentable over Namikawa et al (US 5600203) in view of Ellison et al (US 20020079611).

In regard to claim 1, Namikawa et al ('203) teach a method of repositioning display spacers using inductive attraction, comprising: providing magnetic spacers (113; figure 12; column 10 lines 57-60; column 4 line 61 to column 5 line 10); providing an inductive chuck to attract and lift the spacers (114 on 7; column 10 line 66 to column 11 line 7); providing a substrate (2); aligning the spacers with desired positions on the substrate (figures 12a-12g; column 10 line 43 to column 11 line 35). Namikawa et al ('203) are silent regarding the limitations of a voltage is applied to the inductive chuck, and interrupting the voltage applied to the inductive chuck. In the same field of endeavor of inductive chucks, Ellison et al teach the use of an inductive chuck wherein a voltage is applied and interrupted (paragraph 13) in order to control the clamping force (paragraph 13). Therefore, it would have been obvious at the time of the

Application/Control Number: 10/603,546

Art Unit: 2879

invention to one of ordinary skill in the art to incorporate the voltage applied an inductive chuck as taught by Ellison et al with the inductive chuck of Namikawa. Motivation to combine would be to control the clamping force of the chuck.

In regard to claim 2, Namikawa et al ('203) teach the spacers are spacers of a field emission display (claim 5).

In regard to claim 6, Namikawa et al ('203) teach the spacers are made of magnetic materials (113; column 11 lines 3-7).

In regard to claim 7, Namikawa et al ('203) teach the spacers are completely comprised of magnetic materials (113; column 11 lines 3-7).

In regard to claim 8, Namikawa et al ('203) teach the spacers (6) are partially comprised of magnetic materials (due to 113; column 11 lines 3-7).

In regard to claim 9, Namikawa et al ('203) teach the spacers (6) have two or more layers (6 and 113; see figure 12), at least one of which is made of magnetic materials (113; column 11 lines 3-7).

In regard to claim 14, Namikawa et al ('203) teach the spacers are made of metal, alloy, dielectric, ceramic, or glass materials, or a combination thereof (column 11 lines 3-7).

In regard to claim 15, Namikawa et al ('203) teach the spacers are cylindrical, X-, I-, L-, or bar-shaped or a combination thereof (see figure 2).

Application/Control Number: 10/603,546
Art Unit: 2879

In regard to claim 16, Namikawa et al ('203) teach the shapes of spacers have two or more cross points, comprising comb, lattice, grid, or zig-zag shapes or a combination thereof (see figure 12b).

In regard to claims 17-20, Namikawa et al ('203) teach the substrate is an anode plate and cathode plate (column 11 lines 43-47) of a field emission flat panel display (column 2 lines 6-9).

In regard to claim 23, Namikawa et al ('203) teach the magnetic force lifts the spacer and brings them into contact with the inductive chuck (column 10 line 66 to column 11 line 7).

In regard to claim 24, Namikawa et al ('203) teach the spacers are released from the inductive chuck (7) by interrupting the magnetic force (column 11 lines 14-21).

Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Namikawa et al (US 5600203) in view of Ellison et al (US 20020079611) and in further view of Yakou et al (US 5855637).

Namikawa/Ellison disclose all the limitations set forth, as described above, except an alignment step to position the substrate, wherein the alignment step comprises use of Charge-Coupled Device (CCD) and alignment marks. Yakou et al ('637) teaches the use of Charge-Coupled Device (CCD) (36A and B; figure 1; column 8 lines 35-45) and alignment marks (2b and 2c; figure 9; column 11 lines 49-57) in an alignment step of manufacturing a display in order to form a stronger bond between the spacer and substrate (column 4 line 66 to column 5 line 4). It would have been obvious at the time of the invention to

Application/Control Number: 10/603,546

Art Unit: 2879

one of ordinary skill in the art to modify the method of positioning spacers of Namikawa/Ellison with the alignment step of Yakou et al ('637). Motivation for combining would be to form a stronger bond between the spacer and substrate.

Claims 25-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Namikawa et al (US 5600203) in view of Guenther et al (US 6949880).

In regard to claim 25, Namikawa et al ('203) teach a method of repositioning display spacers using inductive attraction, comprising: providing spacers (113; figure 12; column 10 lines 57-60; column 4 line 61 to column 5 line 10); providing an inductive chuck to attract the spacers (114 on 7; column 10 line 66 to column 11 line 7); providing a substrate (2); using the inductive chuck to position the spacers in desired positions on the substrate (figures 12a-12g; column 10 line 43 to column 11 line 35).

Namikawa et al ('203) are silent regarding the limitations of a voltage is applied to the inductive chuck, and interrupting the voltage applied to the inductive chuck. In the same field of endeavor of inductive chucks, Ellison et al teach the use of an inductive chuck wherein a voltage is applied and interrupted (paragraph 13) in order to control the clamping force (paragraph 13). Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art to incorporate the voltage applied an inductive chuck as taught by Ellison et al with the inductive chuck of Namikawa. Motivation to combine would be to control the clamping force of the chuck.

Namikawa et al ('203) are also silent regarding the limitation of the use of electrostatic force as a clamping force. Guenther et al ('880) teach the use of electrostatic force to hold spacers (column 4 lines 11-25) in order to adhere to prevent particle (spacer) agglomeration on the substrate (column 4 lines 17-20). Hence it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the method of manufacturing the FED of Namikawa et al ('203) with using electrostatic force for

Art Unit: 2879

the spacers and inductive chuck. Motivation to combine would be to prevent particle (spacer) agglomeration on the substrate.

In regard to claim 26, Namikawa/Guenther teach all the limitations set forth, as described above. Namikawa also teaches that an inductive force lifts the spacer and brings them into contact with the inductive chuck (column 10 line 66 to column 11 line 7). Guenther teaches the inductive force to be the electrostatic force (column 4 lines 11-25) in order to adhere to prevent particle (spacer) agglomeration on the substrate (column 4 lines 17-20). Hence it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the method of manufacturing the FED of Namikawa et al ('203) with using electrostatic force for the spacers and inductive chuck. Motivation to combine would be to prevent particle (spacer) agglomeration on the substrate.

In regard to claim 27, Namikawa/Guenther teach all the limitations set forth, as described above. Namikawa also teaches that the spacers are released from the inductive chuck (7) by interrupting the inductive force (column 11 lines 14-21). Guenther teaches the inductive force to be the electrostatic force (column 4 lines 11-25) in order to adhere to prevent particle (spacer) agglomeration on the substrate (column 4 lines 17-20). Hence it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the method of manufacturing the FED of Namikawa et al ('203) with using electrostatic force for the spacers and inductive chuck. Motivation to combine would be to prevent particle (spacer) agglomeration on the substrate.

In regard to claim 28, Namikawa/Guenther teach all the limitations set forth, as described above. Namikawa also teaches that spacers (6) have two or more layers (6 and 113; see figure 12), at least one of which is made of materials that are inductive (113; column 11 lines 3-7). Guenther teaches the inductive

force to be the electrostatic force (column 4 lines 11-25) in order to adhere to prevent particle (spacer) agglomeration on the substrate (column 4 lines 17-20). Hence it would have been obvious at the time of the invention to one of ordinary skill in the art to combine the method of manufacturing the FED of Namikawa et al ('203) with using electrostatic force for the spacers and inductive chuck. Motivation to combine would be to prevent particle (spacer) agglomeration on the substrate.

In regard to claim 28, Namikawa et al ('203) teaches the spacers (6) are made of metal, alloy, dielectric, ceramic, or glass materials, or a combination thereof (column 11 lines 3-7).

Response to Arguments

Applicant's arguments filed 9/14/06 have been fully considered but they are not persuasive.

In regard to Applicant's argument that the prior art of record fails to teach the use of providing an inductive chuck to attract spacers by electrostatic force, the Examiner respectfully disagrees. Namikawa et al teaches the use of an inductive chuck used to attract and move spacers. Guenther teaches the use of electrostatic to attract and repel spacers. Accordingly, one skilled in the art at the time of the invention would reasonable contemplate the incorporation of electrostatic force with the inductive chuck of Namikawa in order to prevent spacer agglomeration on the substrate as taught by Guenther.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is

reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from

the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing

date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH

shortened statutory period, then the shortened statutory period will expire on the date the advisory action

is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX

MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should

be directed to Elizabeth A. Rielley whose telephone number is 571-272-2117. The examiner can

normally be reached on Monday - Friday 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on 571-272-2457. The fax phone number for the organization where

this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be obtained

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Art Unit: 2879

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Elizabeth Rielley

Examiner Art Unit 2879 MARICELI SANTIAGO PRIMARY EXAMINER